

U.S. Pat. No.: 10/525,851
PCT Appl. No.: PCT/AU2003/001086
Docket No.: DB001173-000
Amdt. Dated: 6 June 2006
Reply to Office action of 9 February 2006

REMARKS

Claims 4, 7-9, 11-14 and 16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4, 7 and 16 have been amended herein to remove the objectionable phrases, while claim 9 has been amended to provide proper antecedent basis for the identified term. Accordingly, it is respectfully requested that the rejection of claims 4, 7-9, 11-14 and 16 pursuant to 35 U.S.C. §112, second paragraph, be withdrawn.

Claims 1, 3 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schmitz (U.S. Pat. No.: 2,729,832) in view of Tomlinson (U.S. Pat. No.: 4,787,871). Specifically, the Examiner stated:

Schmitz discloses, with reference to figure 4, a swimming aid including a body portion (1) having locating means for the foot of the user and further including a flexible web 6 extending laterally from the body portion and a series of ribs disposed on the flexible web and extending laterally from the body. Tomlinson discloses a similar swimming fin including a foot portion and a web portion having a series of ribs. Tomlinson teaches making the ribs segmented to allow flexing in one direction and limiting flexion above the plane of the body portion. In view of these disclosures, it would have been obvious to one skilled in the art to make the ribs in Schmitz as being segmented to increase the flexibility in one direction and limiting flexibility in the opposite direction, generally as taught by Tomlinson. Considering that the power stroke of the fin is away from the body, it would have been desirable to limit flexibility in the power stroke; this would make it desirable to provide more stiff ribs on the web as taught by Tomlinson. Tomlinson also teaches making the foot enclosing portion 14 as fully enclosing the user's foot. In view of these disclosures, it would have been obvious to one skilled in the art to make the foot retaining portion of Schmitz as fully enclosing the user's foot generally as taught by Tomlinson.

Independent claim 1 has been amended to recite the feature of *'the ribs extending laterally and divergently from said body'*, while claim 10 is hereby cancelled from the present application. Support for the amendment may be found on page 4 lines 31 to 32, figures 1 to 4 of the present application and original claim 10.

Schmitz teaches a fin having a blade extending from the front portion of the body. The blade being arranged such that it extends elongate (longitudinal) to the leg of the user when the foot of the user

is stretched in a comfortable manner (i.e. during the kick stroke) see Col. 2 line 69 to Col. 3 line 1. In addition, Schmitz teaches the use of a set of ribs which converge toward the free end of the blade in order to produce so called solid water bands to further add propulsion (Col. 2 lines 28-35 to Col. 3 lines 4 to 12).

By contrast, Tomlinson teaches a fin having a blade which extends longitudinally from the body the blade having disposed thereon a set of diverging ribs which extend along the longitudinal length of the blade (see Figure 1). Thus, the teaching of Tomlinson with respect to the arrangement of the ribs is in direct contrast to that of Schmitz. Accordingly, there would be no motivation for a person of ordinary skill in the art to combine the teachings of the Schmitz and Tomlinson in the manner suggested in the Office Action.

Even if a person of ordinary skill in the art were to combine the teachings of the cited references in the manner suggested by the Examiner, they would not be lead to the claimed invention. Claim 1 as presently presented recites the features of *"a flexible web extending laterally from said body"* and *"at least two flexible segmented ribs disposed on said flexible web extending laterally and divergently from said body"*. As can be seen from figures 2 to 4, the arrangement of the flexible web and segmented ribs allows for a wide ranging motion.

As discussed in the specification during the power stroke of the kick the leg and foot are thrust away from the body back towards outside of the swimmers ankle. The gaps between the segments are then closed and the segments are forced together by the force exerted by the water on the underside of the flexible web. This cooperation of the segments results in stiffening of the flexible web against flexion substantially above the plane of the body portion (see Figure 2).

In its resting orientation at the midpoint of the kick stroke there is no resistive water force acting on the flexible web allowing the segments separate to the extent allowed by the cuts in the ribs. As such the flexible web will bend to a degree determined by the amount of static separation between the segments. During the return phase of the kick the swimmers legs and feet are brought back up towards the body. As a result the force of the water is on the upper side of the web this causes the web to fold about the longitudinal axis of the aid allowing the web to fold under the foot of the user (Figure 4).

Neither the fins of Schmitz or Tomlinson are capable of such motion. The fin of Schmitz is specifically designed for a dorsal or ventral kick wherein the blade, legs, and feet each move substantially in normal bipedal ambulation. In such an application it is undesirable for the blade offer little to no

resistance during the return stroke of the kick. In fact, the blade of Schmitz is designed to utilize the resistive force of exerted on the upper and lower sides of the blade by the water to create the solid water band to further aid propulsion.

Such a fin is not readily suited for swimming applications other than those strokes utilizing a dorsal or ventral kick. As discussed in the present application, the mechanics of breast stroke or other such strokes employing a lateral or frog-like kick are vastly different to that of strokes employing dorsal or ventral kick actions. Fins of the type taught by Schmitz require the user to flex the foot and leg to produce the desired propulsion such a flexing does not occur with a lateral or frog-like kick. Rather the foot of the user tends to remain stationary while the legs are thrust out and away from the body in order to provide the main propulsion drive of the kick. Without such a flexing of the foot the fin of Schmitz is rendered useless.

The fin of Tomlinson in stark contrast to both the aid of the present invention and the fin of Schmitz, is not designed for swimming per se. Rather the apparatus of Tomlinson is designed to allow the user to move over the surface of a body of water. While Tomlinson may disclose a series of ribs which are designed to pivot it fails to disclose a set of ribs which allow the blade to fold laterally about the longitudinal axis of the aid and under the foot of the user.

Rather the ribs of Tomlinson are specifically designed to prevent the tip of the blade from digging into the surface of the body of water allowing the user to maintain sufficient momentum to prevent the majority of the body from sinking beneath the water's surface. Again like the fin taught in Schmitz, the fin of Tomlinson requires the user to flex their foot in a vertical or dorsal manner in order to operate the fin in the required manner. Such a vertical or dorsal flexation of the foot does not occur in lateral or frog kick, thus the fin of Tomlinson's is not readily suited for use as an aid for breaststroke or other laterally kicking swimming strokes.

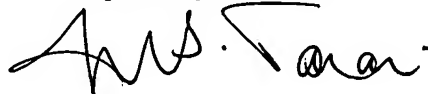
Since neither Schmitz nor Tomlinson teach or suggest the claimed swimming aid for swimming stroked employing a lateral kicking motion, the rejection of claims 1 and 3 should be withdrawn. Accordingly, it is respectfully requested that the rejection of claims 1 and 3 pursuant to 35 U.S.C. §103(a), be withdrawn.

Claims 17-20 have been added. Support for these claims may be found in the application as originally filed. No new matter has been added.

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Applicants have made a diligent effort to place the claims in condition for allowance. Accordingly, a Notice of Allowance for claims 1, 3-9, 11-14 and 16-20 is respectfully requested. If the Examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the Examiner is respectfully requested to contact applicants' attorney at the telephone number listed below so that additional changes may be discussed.

Respectfully submitted,



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